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EXAMINER
YOUNG, JOSEPHINE

ART UNIT	PAPER NUMBER
1623	6

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/082,998	Applicant(s) YERXA ET AL.	
	Examiner Josephine Young	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-20 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1, 3, 5 and 8-9, drawn to compounds of Formula I, wherein A is an amino acid, peptide or polypeptide, and compositions with such compounds, classified in class 536, subclasses 25.6, 26.1, 26.2^{+}.

II. Claims 1, 3, 5, 8-9, drawn to compounds of Formula I, wherein A is a oligonucleotide or a polynucleotide, and compositions with such compounds, classified in class 536, subclasses 25.6, 26.1, 26.2^{+}.

III. Claims 1, 3, 5 and 8-9, drawn to compounds of Formula I, wherein A is a natural or non-natural steroid, and compositions with such compounds, classified in class 536, subclasses 25.6, 26.1, 26.2^{+}.

IV. Claims 1-9, drawn to compounds of Formula I, wherein A is OR_1, SR_1 or NR_1R_2, such that OR_1 and SR_1, are not OH and SH, classified in class 536, subclasses 25.6, 26.1, 26.2^{+}.

V. Claims 1-9, drawn to compounds of Formula I, wherein A is $CR_1R_2R_3$, classified in class 536, subclasses 25.6, 26.1, 26.2^{+}.

VI. Claims 10-15 and 17-19, drawn to methods of preventing, diagnosing or treating retinal tissue diseases or dry-eye disease using a compound of Group I, classified in class 514, subclasses 44, 45^{+}, 48, 49^{+}, 51, 52.

VII. Claims 10-15 and 17-19, drawn to methods of preventing, diagnosing or treating retinal tissue diseases or dry-eye disease using a compound of Group II, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

VIII. Claims 10-15 and 17-19, drawn to methods of preventing, diagnosing or treating retinal tissue diseases or dry-eye disease using a compound of Group III, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

IX. Claims 10-15 and 17-19, drawn to methods of preventing, diagnosing or treating retinal tissue diseases or dry-eye disease using a compound of Group IV, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

X. Claims 10-15 and 17-19, drawn to methods of preventing, diagnosing or treating retinal tissue diseases or dry-eye disease using a compound of Group V, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XI. Claims 10-13, 16 and 19, drawn to methods of preventing, diagnosing or treating respiratory diseases using a compound of Group I, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XII. Claims 10-13, 16 and 19, drawn to methods of preventing, diagnosing or treating respiratory diseases using a compound of Group II, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XIII. Claims 10-13, 16 and 19, drawn to methods of preventing, diagnosing or treating respiratory diseases using a compound of Group III, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XIV. Claims 10-13, 16 and 19, drawn to methods of preventing, diagnosing or treating respiratory diseases using a compound of Group IV, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XV. Claims 10-13, 16 and 19, drawn to methods of preventing, diagnosing or treating respiratory diseases using a compound of Group V, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XVI. Claims 10-13 and 19, drawn to methods of preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases using a compound of Group I, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XVII. Claims 10-13 and 19, drawn to methods of preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases using a compound of Group II, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XVIII. Claims 10-13 and 19, drawn to methods of preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases using a compound of Group III, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XIX. Claims 10-13 and 19, drawn to methods of preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases using a compound of Group IV, classified in class 514, subclasses 44, 45$^+$, 48, 49$^+$, 51, 52.

XX. Claims 10-13 and 19, drawn to methods of preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases using a compound of Group V, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

XXI. Claim 20, drawn to methods of preventing or treating diseases associated with platelet aggregation and thrombosis using a compound of Group I, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

XXII. Claim 20, drawn to methods of preventing or treating diseases associated with platelet aggregation and thrombosis using a compound of Group II, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

XXIII. Claim 20, drawn to methods of preventing or treating diseases associated with platelet aggregation and thrombosis using a compound of Group III, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

XXIV. Claim 20, drawn to methods of preventing or treating diseases associated with platelet aggregation and thrombosis using a compound of Group IV, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

XXV. Claim 20, drawn to methods of preventing or treating diseases associated with platelet aggregation and thrombosis using a compound of Group V, classified in class 514, subclasses 44, 45^+, 48, 49^+, 51, 52.

Claims 1, 3, 5 and 8-9 link Groups I-III and will be examined together with the Group that is elected as it pertains to the elected invention. Claims 1-9 link Groups IV and V and will be examined together with the Group that is elected as it pertains to the elected invention.

Claims 10-19 link Groups VI-XX and will be examined together with the Group that is elected as it pertains to the elected invention. Claim 20 links Groups XXI-XXV and will be examined together with the Group that is elected as it pertains to the elected invention.

The inventions are distinct, each from the other because of the following reasons:

Groups I-V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are directed to compounds with patentably distinct different functional groups. The compounds and compositions of Group I are directed to nucleotide compounds that are substituted with an amino acid, peptide or polypeptide group. The compounds and compositions of Group II are directed to nucleotide compounds that are substituted with an oligonucleotide or a polynucleotide. The compounds and compositions of Group III are directed to nucleotide compounds that are substituted with a natural or non-natural steroid. The compounds and compositions of Group IV are directed to nucleotide compounds that are substituted with an OR_1, SR_1 or NR_1R_2 moiety, such that OR_1 and SR_1, are not OH and SH. The compounds and compositions of Group I are directed to nucleotide compounds that are substituted with a carbon based moiety of the formula $CR_1R_2R_3$. The compounds/compositions of one do not render obvious the compounds/compositions of the other.

Groups I-V are related to Group VI-X as product and process of use. Similarly, Groups I-V are related to Group XI-XV as product and process of use. Groups I-V are related to Group XVI-XX as product and process of use. Groups I-V are related to Group XXI-XXV as product

and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using that product, such as the processes of one of the other Groups, Groups VI-X, Groups XI-XV, Groups XVI-XX or Groups XXI-XXV.

Groups VI-X, Groups XI-XV, Groups XVI-XX and Groups XXI-XXV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are directed to methods with patentably distinct effects. The methods of Groups VI-X are directed to the prevention, diagnosis or treatment of retinal tissue diseases or dry-eye disease, which is patentably distinct from methods of preventing, diagnosing or treating respiratory diseases, as per Groups XI-XV, which is patentably distinct from preventing, diagnosing or treating epithelial diseases that are not retinal/dry-eye or respiratory diseases, as per Groups XVI-XX, which is patentably distinct from methods of preventing or treating diseases associated with platelet aggregation and thrombosis, as per Group Groups XXI-XXV. The methods of one do not render obvious the methods of another.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and their recognized divergent subject matter, restriction for examination purposes as indicated is proper. A reference for one group could not reasonably be expected to be a reference for another. Further, searching all of

the inventions constitutes a burdensome search, as a thorough search comprises a search of foreign patents and non-patent literature, as well as the appropriate U.S. patent classifications. To search the twenty-five independent and distinct inventions, set forth supra, would indeed impose an undue burden upon the examiner in charge of this application.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even if the requirement is traversed (37 CFR 1.143).

Election of Species

If one of Groups I-III is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, the claims are generic to a plurality of disclosed patentably distinct species such that each species is directed to compounds of Formula I or compositions with such compounds, wherein

- X_1, X_2 and X_3 are independently one of the following distinct moieties: an oxygen, a carbon based moiety or a nitrogen based moiety;
- the sum of m+n+p is 0, 1, 2, 3, 4 or 5;
- D is either O or CH_2;
- Y and Z are independently one of the following distinct moieties:

  H or OH

  OR

  at least one of Y and Z is independently one of the following distinct moieties:

(A) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an ether;

(B) $-OR_4$ an and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an acyclic acetal or ketal;

(C) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbamate or thiocarbamate; or

(D) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbonate, thiocarbonate, cyclical carbonate or cyclical thiocarbonate;

OR

Y and Z are taken together and are one of the following distinct moieties:

(E) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is an acetal or ketal; or

(F) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is a cyclical orthoester;

AND

- B' is either a purine of general formula IV or a pyrimidine of general formula V.

If Groups IV is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no

generic claim is finally held to be allowable. Currently, the claims are generic to a plurality of disclosed patentably distinct species such that each species is directed to compounds of Formula I or compositions with such compounds, wherein

- X_1, X_2 and X_3 are independently one of the following distinct moieties: an oxygen, a carbon based moiety or a nitrogen based moiety;
- the sum of m+n+p is 0, 1, 2, 3, 4 or 5;
- D is either O or CH_2;
- Y and Z are independently one of the following distinct moieties:

  H or OH

  OR

  at least one of Y and Z is independently one of the following distinct moieties:

  (A) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an ether;

  (B) $-OR_4$ an and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an acyclic acetal or ketal;

  (C) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbamate or thiocarbamate; or

  (D) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbonate, thiocarbonate, cyclical carbonate or cyclical thiocarbonate;

OR

Y and Z are taken together and are one of the following distinct moieties:

(E) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is an acetal or ketal; or

(F) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is a cyclical orthoester;

- B' is either a purine of general formula IV or a pyrimidine of general formula V;
- A is either (A) OR_1 or SR_1 or (B) NR_1R_2;

AND

- R_1 or R_1/R_2 selected from the following patentably distinct moieties: (A) hydrogen, alkyl, cycloalkyl or taken together to form a cycloalkyl ring; (B) aryl, arylalkyl or taken together to form an aryl ring; (C) a phosphonate and (D) an acylthioalkyl.

If Groups V is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, the claims are generic to a plurality of disclosed patentably distinct species such that each species is directed to compounds of Formula I or compositions with such compounds, wherein

- X_1, X_2 and X_3 are independently one of the following distinct moieties: an oxygen, a carbon based moiety or a nitrogen based moiety;
- the sum of m+n+p is 0, 1, 2, 3, 4 or 5;
- D is either O or CH_2;

- Y and Z are independently one of the following distinct moieties:

  H or OH

  OR

  at least one of Y and Z is independently one of the following distinct moieties:

  (A) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an ether;

  (B) $-OR_4$ an and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is an acyclic acetal or ketal;

  (C) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbamate or thiocarbamate; or

  (D) $-OR_4$ and/or $-OR_5$ that are independently a compound of the Formula II, such that the moiety defined according to Formula II is a carbonate, thiocarbonate, cyclical carbonate or cyclical thiocarbonate;

  OR

  Y and Z are taken together and are one of the following distinct moieties:

  (E) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is an acetal or ketal; or

  (F) OR_4 and $-OR_5$ that are together a compound of the Formula III, such that the moiety defined according to Formula III is a cyclical orthoester;

- B' is either a purine of general formula IV or a pyrimidine of general formula V;

AND

- each R_1, R_2 and R_3 are independently selected from the following patentably distinct moieties: (A) hydrogen, alkyl, cycloalkyl or taken together to form a cycloalkyl ring; (B) aryl, arylalkyl or taken together to form an aryl ring; (C) a phosphonate and (D) an acylthioalkyl.

If one of Groups VI-X, XI-XV, XVI-XX or XXI-XXV is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species wherein each species is a method of using a compound with a patently distinct compound, as set forth supra, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to

be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josephine Young whose telephone number is (703) 605-1201. The examiner can normally be reached on Monday through Friday, 9:00 a.m. to 6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached at (703) 308-4624. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3014 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

JY
June 3, 2003

JAMES O. WILSON
SUPERVISORY PATENT EXAMINER
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